

REMARKS

Claims 1-7 are all the claims pending in the application. Claims 1-7 have been rejected under 35 U.S.C. § 112, second paragraph. Claim 3 has been canceled and the subject matter of claim 3 has been incorporated into claim 1. Also, new claim 8 has been added.

Turning to the rejections, the Examiner objected to claim 1 stating that it is not clear where the preamble and the body of the claim are provided. The Examiner also stated that the body of the claim appears to be functional language only. The Examiner further rejected claims 1-7 under 35 U.S.C. § 112, second paragraph, as being indefinite. In particular, the phrase "other than" in claims 1 and 5, and the phrase "that switches" in claim 6 were rejected as being unclear for failing to point out what is included or excluded in the claim.

Applicant has amended claims 1, 4, 5 and 7 pursuant to a telephone interview with Examiner Mack on September 12, 2002 (copy of Interview Summary attached) in which the Examiner indicated that the amendments appear to be acceptable. Accordingly, Applicant submits that such amendments remove the indefiniteness of claims 1, 2 and 4-7.

Applicant has amended the specification to provide reference numerals for the switching device to further overcome the indefiniteness rejection of claim 6. Such amendment was also approved by the Examiner during the September 12, 2002, telephone interview, as indicated in the attached Interview Summary.

In addition to the Examiner approved amendments, Applicant has canceled claim 3 and incorporated the subject matter of claim 3 into claim 1. Amended claim 1 recites an aperture at a predetermined zooming step that is between a telephoto end and a wide-angle end, wherein the aperture is smaller than apertures at other zooming steps. Amended claim 1 also recites that the

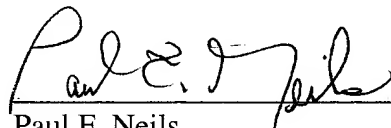
AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No.: 09/891,352

predetermined zooming step is used only when a macro shooting mode is chosen. U.S. Patent 6,222,684 to Nishimura, cited by the Examiner in the Conclusion of the present Office Action, fails to suggest such a feature.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Paul F. Neils", written over a horizontal line.

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Date: November 26, 2002

APPENDIX
VERSION WITH MARKINGS TO SHOW CHANGES MADE
IN THE SPECIFICATION:

Please amend the specification as follows:

Page 1, the third full paragraph was amended as follows:

When an aperture of sectors is small, in order to make a field depth larger for a macro shooting, a lens device can be focused on a depth-of-field subject and a precise automatic focus is not needed. When the normal shooting mode is switched to the macro shooting mode, the conventional zoom lens device stops sectors while they are opening to obtain a small aperture.

Page 1, the fourth full paragraph was amended as follows:

However, since the zoom lens moves forward beyond the telephoto end, the zoom lens device is large. [If the telephoto end is used only for the macro shooting to address this problem]To address this problem, if the telephoto end is used only for the macro shooting, a telephoto end for the normal shooting is close to the wide-angle end, and thus the zooming ratio is low.

Page 2, the third full paragraph was amended as follows:

The above object can be achieved by providing a zoom lens device wherein an aperture at a predetermined zooming step that is [other than]between a telephoto end and a wide-angle end is smaller than apertures at the other zooming steps.

Page 2, the fourth full paragraph was amended as follows:

The above object can be achieved by providing a zoom lens device, comprising: a zoom lens with a plurality of zooming steps; a choosing device that chooses a macro shooting mode for [having]obtaining a close-up of a subject; a driving device that moves the zoom lens to a

predetermined zooming step that is [other than]between a telephoto end and a wide-angle end when the choosing device chooses the macro shooting mode; and an aperture restricting device that changes apertures according to the zooming steps so that an aperture at a predetermined zooming step that is [other than]between a telephoto end and a wide-angle end is smaller than apertures at the other zooming steps.

Page 2, the fifth full paragraph was amended as follows:

According to the present invention, the aperture at the predetermined zooming step that is [other than]between the telephoto end and the wide-angle end is smaller than apertures at the other zooming steps, and the predetermined zooming step is used only when the macro shooting mode is chosen. In the present invention, the predetermined zooming step between the telephoto end and the wide-angle end is set only for the macro shooting mode, and the aperture in the macro shooting mode is small to make the field depth large. Therefore, the lens does not have to be precisely controlled, and the simple lens device can perform the macro shooting. In addition, the lens device can be focused on a depth-of-field subject, and the automatic focus does not need to be precisely performed. Also, the appropriate exposure can be obtained even if an electronic flash fully emits a light, and the electronic flash light does not need to be adjusted. Moreover, since the telephoto end is not only set for the macro shooting, the zooming ratio is high in the normal shooting.

Page 3, the third full paragraph was amended as follows:

When the zoom lens is moved beyond the telephoto end or the wide-angle end, the pushing device pushes the cam follower against the second cam surface, and the aperture is smaller than the other apertures. The lens device can obtain the small aperture only by moving

the zoom lens beyond the telephoto end or the wide-angle end. Since the known aperture restriction needs [a] little change to realize the aperture restriction of the present invention, the number of parts is not increased, and the lens device is small and inexpensive.

Page 8, the fourth full paragraph was amended as follows:

The maximum aperture at the zooming step Z5 is smaller than those at the other zooming steps, and thus a field depth at the zooming step Z5 is larger than those at the other zooming steps. Therefore, the macro shooting that does not require precise control of the lens positions is possible at the zooming step Z5.

Page 15, the seventh full paragraph was amended as follows:

The zooming step Z5 is used only when the user selects the macro shooting mode for [having]obtaining a close-up of the subject.

Page 19, the second full paragraph was amended as follows:

When zooming step Z2 is switched to the zooming step Z1, the cam pin 124 gets coupled with the cam surface 326A through a cam surface 326G' (a fourth cam surface). The toggle mechanism 117 operates in the opposite way from that shown in Fig. 16 to push the cam pin 124 against the cam surface 326. The toggle mechanism 117 relieves the cam pin 124 from the coupling with the cam surface 326G. This switches the macro shooting mode to the normal shooting mode when the zoom lens is moved beyond either the telephoto end or the wide-angle end. The toggle mechanism 117, the cam surface 326G and the cam pin 124 [composes]comprises an aperture switching device (117; 326G; 124).

Page 26, the last full paragraph was amended as follows:

In the case of a zoom lens device with a high zooming ratio of three or higher, the aperture restricting member 84 needs to be provided. Since the aperture restricting member 84 has the aperture switching device (117; 326G; 124) for making the aperture small in the macro shooting mode, the zoom lens device can reduce the number of parts, and can be smaller and less expensive.

Page 27, the second full paragraph was amended as follows:

As set forth herein above, the aperture at the predetermined zooming step that is [other than]between the telephoto end and the wide-angle end is smaller than apertures at the other zooming steps, and the predetermined zooming step is used only when the macro shooting mode is chosen. Therefore, the lens does not have to be precisely controlled, and the simple lens device can perform the macro shooting.

IN THE CLAIMS:

Claim 3 has been cancelled.

The claims are amended as follows:

1.(Amended) A zoom lens device [wherein]comprising an aperture at a predetermined zooming step that is [other than]between a telephoto end and a wide-angle end,
wherein the aperture is smaller than apertures at [the] other zooming steps[.], and
wherein the predetermined zooming step is used only when a macro shooting mode for obtaining a close-up of a subject is chosen.

4.(Amended) The zoom lens device as defined in claim [3]1, wherein the predetermined zooming step is [close]closer to the telephoto end than the wide-angle end.

5.(Amended) A zoom lens device, comprising:

a zoom lens with a plurality of zooming steps;

a choosing device that chooses a macro shooting mode for [having]obtaining a close-up of a subject;

a driving device that moves the zoom lens to a predetermined zooming step that is [other than]between a telephoto end and a wide-angle end when the choosing device chooses the macro shooting mode; and

an aperture restricting device that changes apertures according to the zooming steps so that an aperture, which is at a predetermined zooming step that is [other than a]between the telephoto end and [a]the wide-angle end, is smaller than apertures at the other zooming steps.

7.(Amended) The zoom lens device as defined in claim 6, wherein the aperture switching device is used only when a macro shooting mode for [having]obtaining a close-up of a subject is chosen.

Claim 8 is added as a new claim.



Interview Summary

Application No.

09/891,352

Applicant(s)

TAKESHITA ET AL

Examiner

Ricky L Mack

Art Unit

2873

All participants (applicant, applicant's representative, PTO personnel):

(1) Ricky L Mack.

(3) _____.

(2) Allison Bowles (48294).

(4) _____.

Date of Interview: 12 September 2002.

Type: a) ☒ Telephonic b) ☐ Video Conference
c) ☐ Personal [copy given to: 1) ☐ applicant 2) ☐ applicant's representative]

Exhibit shown or demonstration conducted: d) ☐ Yes e) ☒ No.
If Yes, brief description: _____.

Claim(s) discussed: 1, 5 and 6.

Identification of prior art discussed: Nishimura (6222684).

Agreement with respect to the claims f) ☒ was reached. g) ☐ was not reached. h) ☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: See Continuation Sheet.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

i) ☒ It is not necessary for applicant to provide a separate record of the substance of the interview (if box is checked).

Unless the paragraph above has been checked, THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

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Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

Ricky L Mack
Examiner's signature, if required

Continuation Sheet (PTO-413)

Application No. 09/891,352

Continuation of Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: It was agreed to that the an amendment to claim 1 to replace "wherein" with --comprising--; claims 1 and 5 to change "other than" to --between--; and claim 6 an amendment to claim 6 or the specification to establish antecedent of the claimed limitation would overcome the rejection under 112 in office action mailed 8/28/02. A copy of Nishimura (6222684) has being provided by fax as requested be applicant's representative because it was not included with the office action.